

APPENDIX B

Management Actions for the IBMP as defined in the 2010-2011 IBMP Annual Report

ACTION 1.1A: ALLOW UNTESTED FEMALE/MIXED GROUPS OF BISON TO MIGRATE ONTO AND OCCUPY THE HORSE BUTTE PENINSULA AND THE FLATS EACH WINTER AND SPRING IN ZONE 2.

- Monitoring Metric 1: Weekly surveys of the number and distribution of bison on Horse Butte, the Flats, crossing the Narrows, and going beyond the Madison Resort (Lead = MDOL).
- Monitoring Metric 2: Annually document the number of bison using Zone 2 and the number and type of management activities needed to manage bison distribution (Lead = MDOL).
- Monitoring Metric 3: Create a density curve of the threshold number of bison on Horse Butte that results in movements of bison to the South Fork Madison area (Lead = MDOL).
- Monitoring Metric 4: Determine natural routes and timeframes (without hazing) for bison migration back into the park (Lead = NPS). Use this information to evaluate the effectiveness of management responses for bison tolerance in Zone 2 (Lead = MDOL).

ACTION 1.1B: USE ADAPTIVE MANAGEMENT TO GAIN MANAGEMENT EXPERIENCE REGARDING HOW BISON USE ZONE 2 IN THE GARDINER BASIN, AND PROVIDE SPACE/HABITAT FOR BISON IN CATTLE-FREE AREAS.

- Monitoring Metric 1: Weekly survey of the number and distribution of bison in the Eagle Creek/Bear Creek area and the Gardiner basin (Lead inside YELL = NPS; Lead outside YELL = MDOL with MFWP).
- Monitoring Metric 2: Annually document the numbers and dates that bison attempt to exit Zone 2 by passing through Yankee Jim Canyon, west up Mol Heron Creek Canyon, or to the east side of the Yellowstone River and north of Little Trail Creek (Lead = MDOL/MFWP).
- Monitoring Metric 3: Annually document the number of bison using Zone 2 and the number of management activities needed to manage bison distribution (Lead = MDOL/MFWP).
- Monitoring Metric 4: Annually collect data to update the relationships between bison management at the Stephens Creek facility and the interaction between bison density and snow pack in the central and northern herds (Lead = NPS).
- Monitoring Metric 5: Annually collect data to determine natural migration routes and timeframes (in the absence of hazing) for bison migration out of and back into the park (Lead inside YELL = NPS; Lead outside YELL = MDOL/MFWP).

ACTION 1.1C: USE RESEARCH FINDINGS ON BISON BIRTH SYNCHRONY AND FETAL AND SHED *BRUCELLA ABORTUS* FIELD VIABILITY AND PERSISTENCE TO INFORM ADAPTIVE MANAGEMENT.

- Monitoring Metric 1: Complete research reports and attempt to publish findings in a peer-reviewed, scientific journal (Lead = MFWP and NPS).

ACTION 1.2A: ALLOW BACHELOR GROUPS OF BULL BISON TO OCCUPY SUITABLE HABITAT AREAS OUTSIDE THE WEST BOUNDARY OF YELL IN THE PORTION OF ZONE 2 SOUTH OF DUCK CREEK EACH YEAR WITHIN THE PARAMETERS OF CONFLICT MANAGEMENT.

- Monitoring Metric 1: Weekly counts and locations of bull bison in Zone 2 (Lead = MDOL). *IBMP 2010/2011 Annual Report* 12
- Monitoring Metric 2: Document threats to human safety and property damage (Lead = MFWP).

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ACTION 1.2B: ALLOW BACHELOR GROUPS OF BULL BISON TO OCCUPY SUITABLE HABITAT AREAS IN ZONE 2 OUTSIDE THE NORTH BOUNDARY OF YELL WITHIN THE FOLLOWING PARAMETERS OF CONFLICT MANAGEMENT.

- Monitoring Metric 1: Weekly counts and locations of bull bison in Zone 2 (Lead = MDOL/MFWP).
- Monitoring Metric 2: Document threats to human safety and property damage (Lead = MFWP/MDOL).
- Monitoring Metric 3: Annually document the numbers and dates that bull bison attempt to exit Zone 2 by passing through Yankee Jim Canyon, west up Mol Heron Creek Canyon, or to the east side of the Yellowstone River and north of Little Trail Creek (Lead = MDOL/MFWP).

ACTION 1.3A: WORK WITH PRIVATE LAND OWNERS AND LIVESTOCK PRODUCERS AND OPERATORS TO PROVIDE CONFLICT-FREE HABITAT IN THE HEBGEN AND GARDINER BASINS.

- Monitoring Metric 1: Create an annual record of the: a) number of acres made available to bison from conservation easements (Lead = MFWP); b) locations, numbers, types, and turn-out/off dates for cattle grazed on private land in the Hebgen and Gardiner basins (Lead = MDOL); and c) extent of fencing erected to separate bison from livestock (Lead = MDOL).

ACTION 1.3B: WORK WITH LANDOWNERS WHO HAVE HUMAN SAFETY AND PROPERTY DAMAGE CONCERNS, AS WELL AS THOSE WHO FAVOR INCREASED TOLERANCE FOR BISON, TO PROVIDE CONFLICT-FREE HABITAT IN THE HEBGEN AND GARDINER BASINS.

- Monitoring Metric 1: Annually document the numbers, timing, and types of reported incidents for human safety and property damage related to bison (Lead = MFWP with support from MDOL).
- Monitoring Metric 2: Annually document the numbers and types of actions taken to provide conflict-free habitat for bison (Lead = MFWP with support from MDOL).

ACTION 1.3C: ANNUALLY, THE GALLATIN NATIONAL FOREST WILL ENSURE CONFLICT-FREE HABITAT IS AVAILABLE FOR BISON AND LIVESTOCK GRAZING ON PUBLIC LANDS, AS PER MANAGEMENT OBJECTIVES OF THE IBMP.

- Monitoring Metric 1: Annually track the status (e.g. number of acres, location, etc.) of active and inactive cattle grazing allotments on public lands (Lead = USFS).

ACTION 2.1A: INCREASE THE UNDERSTANDING OF BISON POPULATION DYNAMICS TO INFORM ADAPTIVE MANAGEMENT AND REDUCE SHARP INCREASES AND DECREASES IN BISON ABUNDANCE.

- Monitoring Metric 1: Conduct aerial and ground surveys to estimate the annual abundance of bison each summer (Lead = NPS).
- Monitoring Metric 2: Document and evaluate relationships between bison migration to the boundary of YELL and bison abundance, population (or subpopulation) growth rates, and snow pack in the central and northern herds (Lead = NPS).
- Monitoring Metric 3: Continue to obtain estimates of population abundance through the remainder of the year based on surveys, knowledge of management removals, and survival probabilities (Lead = NPS).
- Monitoring Metric 4: Conduct an assessment of population range for bison in YELL that successfully addresses the goals of the IBMP by retaining genetic diversity and the ecological function and role of bison, while lessening the likelihood of large-scale migrations to the park boundary and remaining below the estimated carrying capacity of the park's forage base (Lead = NPS).

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ACTION 2.1B: INCREASE THE UNDERSTANDING OF GENETICS OF BISON IN YELL TO INFORM ADAPTIVE MANAGEMENT.

- Monitoring Metric 1: Complete an assessment of the existing genetic diversity in bison and how the genetic integrity of bison may be affected by management removals (all sources combined) by October 2010 to estimate existing genetic diversity and substructure in the population (Lead = NPS).
- Monitoring Metric 2: Conduct an assessment of the genetic diversity necessary to maintain a robust, wild, free-ranging population that is able to adapt to future conditions (Lead = NPS).

ACTION 2.1C: INCREASE UNDERSTANDING OF THE ECOLOGICAL ROLE OF BISON TO INFORM ADAPTIVE MANAGEMENT BY COMMISSIONING A COMPREHENSIVE REVIEW AND ASSESSMENT.

- Monitoring Metric: Develop and implement by October 2011 a joint research strategy agreed to by the interagency partners that focuses on understanding the role and function of bison for providing nutrient redistribution, prey and carrion, and microhabitats for other species (Lead = NPS).

ACTION 2.2A: USE SLAUGHTER ONLY WHEN NECESSARY; ATTEMPT TO USE OTHER RISK MANAGEMENT TOOLS FIRST.

- Monitoring Metric 1: Annually document the number, age, sex, and sero-status of bison sent to slaughter (Lead = APHIS with the MDOL).

ACTION 2.2B: IN ZONE 2 LANDS ADJACENT TO YELL, EMPHASIZE MANAGEMENT OF BISON AS WILDLIFE AND INCREASE THE USE OF STATE AND TREATY HUNTS TO MANAGE BISON NUMBERS AND DEMOGRAPHIC RATES, LIMIT THE RISK OF BRUCELLOSIS TRANSMISSION TO CATTLE, AND PROTECT HUMAN SAFETY AND PROPERTY.

- Monitoring Metric 1: Weekly and annual summaries of bison harvested by state and treaty hunters (Lead = MFWP / Nez Perce / Confederated Salish and Kootenai Tribes).

ACTION 2.2C: COMPLETE THE QUARANTINE FEASIBILITY STUDY AND CONSIDER AN OPERATIONAL QUARANTINE FACILITY TO PROVIDE A SOURCE OF LIVE, DISEASE-FREE BISON FOR TRIBAL GOVERNMENTS AND OTHER REQUESTING ORGANIZATIONS.

- Monitoring Metric 1: Annual summary of bison sent to quarantine and bison transported from quarantine to suitable restoration sites (Lead = MFWP/APHIS).
- Monitoring Metric 2: Annual summaries from bison populations restored using quarantined bison from YELL, including numbers, demographic rates, and implemented risk management actions (Lead = MFWP/APHIS).
- Monitoring Metric 3: Evaluate regulatory requirements and constraints for moving live bison, including adults, to suitable restoration sites (Lead = APHIS/MDOL).
- Monitoring Metric 4: Conduct an assessment of the quarantine feasibility study and offer recommendations regarding whether the quarantine of bison should become operational (Lead = MFWP/APHIS).
- Monitoring Metric 5: Identify suitable release sites for brucellosis-free bison in quarantine, and solicit proposals from groups interested in restoring bison, through the Interagency/Tribal Bison Restoration Panel (Lead = MFWP/APHIS).

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ACTION 3.1A: CONTINUE BISON VACCINATION UNDER PREVAILING AUTHORITY.

- Monitoring Metric 1: Document the number of eligible bison captured and vaccinated outside of the park (Lead = MDOL/APHIS).
- Monitoring Metric 2: Implement the Bison and Brucellosis Monitoring and Surveillance Plan (Lead = NPS).

ACTION 3.1B: COMPLETE EIS PROCESSES (MEPA/NEPA) FOR REMOTE DELIVERY VACCINATION OF BISON AND USE THE OUTCOMES TO INFORM ADAPTIVE MANAGEMENT.

- Monitoring Metric 1: Complete the NEPA process and reach a decision on whether remote delivery vaccination of bison can/will be employed inside YELL (Lead = NPS).
- Monitoring Metric 2: Based on the MEPA process, determine if remote delivery vaccination of bison can/will be employed outside of YELL (Lead = MDOL).

ACTION 3.1C: TEST AND VACCINATE CATTLE.

- Monitoring Metric 1: By June 15th, determine and document the vaccination status of all “at-risk” cattle in or coming into the Hebgen and Gardiner basins. (Lead = MDOL/APHIS).

ACTION 3.2A: USE SPATIAL AND TEMPORAL SEPARATION AND HAZING TO PREVENT CATTLE/BISON INTERACTIONS.

- Monitoring Metric 1: Document the minimum temporal separation and space between bison and cattle during February through June (Lead = MDOL).
- Monitoring Metric 2: Document the number of times bison are successfully or unsuccessfully moved to create separation in time and space from cattle (Lead = MDOL).

ACTION 3.2B: EVALUATE THE USE OF LIMITED, STRATEGICALLY PLACED FENCING WHEN AND WHERE IT COULD EFFECTIVELY CREATE SEPARATION BETWEEN DOMESTIC LIVESTOCK AND BISON, AND NOT CREATE A MAJOR MOVEMENT BARRIER TO OTHER WILDLIFE.

- Monitoring Metric 1: Document the number of additional acres of habitat made available for bison as a result of strategic fencing (Lead = MFWP/USFS/MDOL).
- Monitoring Metric 2: Document fence damage or the number of times fencing fails to inhibit bison trespass on private property occupied by cattle (Lead = MDOL).

ACTION 3.2C: HAZE BISON FROM THE HEBGEN BASIN INTO YELL WITH A TARGET DATE OF MAY 15.

- Monitoring Metric 1: Consistent with management action 1.1a, assess the prevailing environmental conditions and reach consensus by May 13 on a step-wise, integrated plan for the end-of-winter return of bison into YELL from Zone 2 (Lead = MDOL/NPS).
- Monitoring Metric 2: Annually document the timing of the end-of-winter return of bison into YELL, the number of bison returned, prevailing environmental conditions, and success or lack thereof of hazing bison and getting them to remain in the park (Lead = MDOL/NPS).
- Monitoring Metric 3: Annually review and apply *B. abortus* persistence information, private land cattle turn-on dates, and applicable research results to determine the effects of haze-to-habitat actions on bison and their effectiveness at preventing the commingling of bison and cattle (Lead = MDOL).

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ACTION 3.2D: HAZE BISON FROM THE GARDINER BASIN INTO YELL WITH A TARGET DATE OF MAY 1.

- Monitoring Metric 1: Consistent with management action 1.1b, assess the prevailing environmental conditions and reach consensus by April 15 on a step-wise, integrated plan for the end-of-winter return of bison into YELL from Zone 2 (Lead = MDOL/NPS).
- Monitoring Metric 2: Annually document the timing of the end-of-winter return of bison into YELL, the number of bison returned, prevailing environmental conditions, and success or lack thereof of hazing bison and getting them to remain in the park (Lead = MDOL/NPS).
- Monitoring Metric 3: Annually review and apply *B. abortus* persistence information, private land cattle turn-on dates, and applicable research results to determine the effects of haze-to-habitat actions on bison and their effectiveness at preventing the commingling of bison and cattle (Lead = MDOL).